

CISC 3115 TY3
C01b: Programming
Environment

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Outline

- *Get around in Operating Systems*
 - Unix-like: Unix, Linux, OS X
 - Windows
- Terminal and command line
- JRE and JDK
- Authoring Java programs
- Compiling and running Java programs

Question?

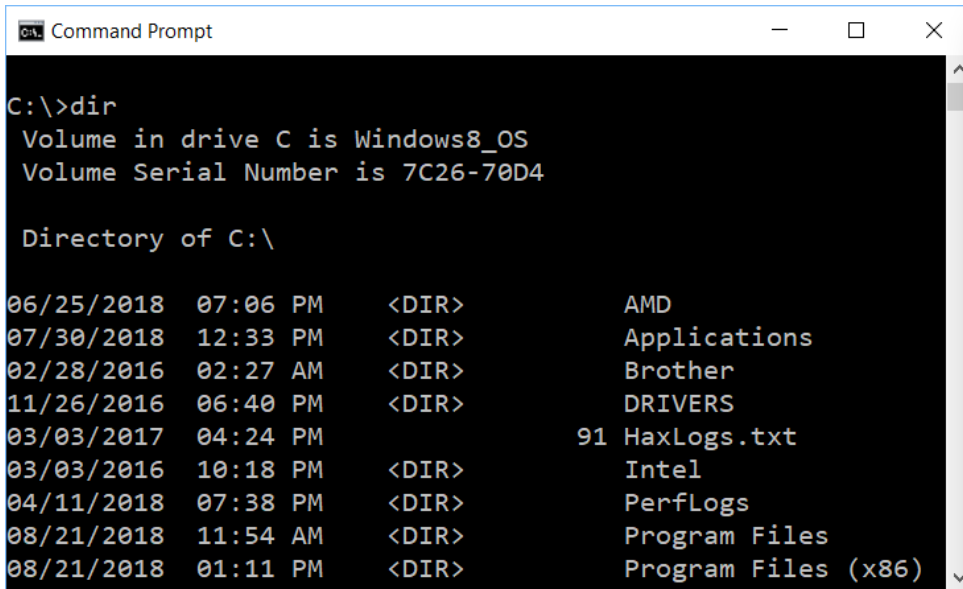
- Do you have a computer that you can bring to the class?
- It is almost necessary to have a laptop for this class.

Operating Systems

- Do you know the answers to the questions:
 - Where are my files?
 - What is a folder or directory?
 - How do I install a program?
 - How do I open a terminal window?
 - How do I copy/delete/rename a file, or a folder/directory, or a bound of files?
- To learn programming, it is necessary to be proficient in using your computer

Terminal and Command Line

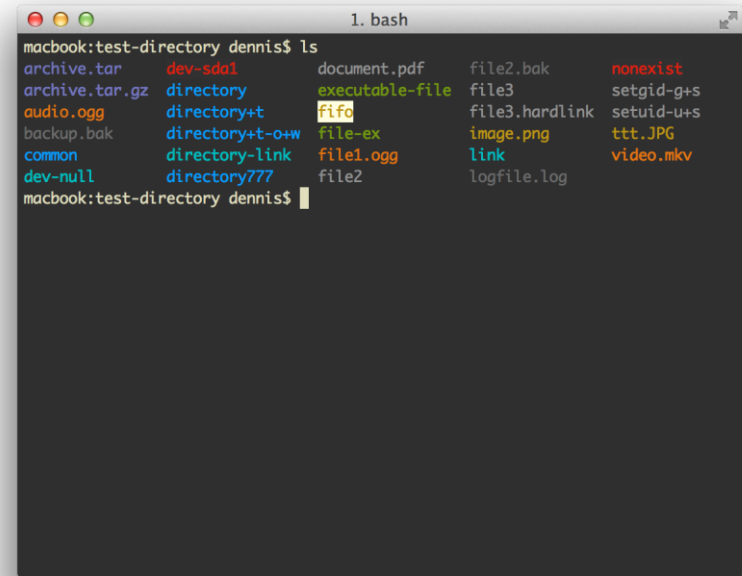
- Use a Command Line



```
Command Prompt
C:\>dir
Volume in drive C is Windows8_OS
Volume Serial Number is 7C26-70D4

Directory of C:\

06/25/2018  07:06 PM    <DIR>          AMD
07/30/2018  12:33 PM    <DIR>          Applications
02/28/2016  02:27 AM    <DIR>          Brother
11/26/2016  06:40 PM    <DIR>          DRIVERS
03/03/2017  04:24 PM                91 HaxLogs.txt
03/03/2016  10:18 PM    <DIR>          Intel
04/11/2018  07:38 PM    <DIR>          PerfLogs
08/21/2018  11:54 AM    <DIR>          Program Files
08/21/2018  01:11 PM    <DIR>          Program Files (x86)
```



```
1. bash
macbook:test-directory dennis$ ls
archive.tar      dev-sda1      document.pdf   file2.bak      nonexist
archive.tar.gz  directory     executable-file file3           setgid-g+s
audio.ogg        directory+t   fifo           file3.hardlink setuid-u+s
backup.bak       directory+t+o+w file-ex        image.png      ttt.JPG
common           directory-link file1.ogg      link           video.mkv
dev-null         directory777  file2         logfile.log
macbook:test-directory dennis$
```

Common Tasks on Command Line

Windows

- Display working directory: `cd`
- Display content of a directory: `dir`
- Change directory: `cd directory_to_go`
- Make directory: `mkdir dir_to_make`
- Move files: `move this_file to_dir`
- Delete file: `del file_to_delete`
- Delete directory: `rmdir dir_to_delete`

Unix-like

- Display working directory: `pwd`
- Display content of a directory: `ls`
- Change directory: `cd directory_to_go`
- Make directory: `mkdir dir_to_make`
- Move files: `move this_file to_dir`
- Delete file: `rm file_to_delete`
- Delete directory: `rmdir dir_to_delete`

JRE and JDK

- JRE: Java Runtime Environment
 - Required to run a Java program
- JDK: Java Development Kit
 - Required to author a Java program
 - Compile and run Java programs
- Have you had JDK installed/set up in your system?

Verify JRE is Present

- On Command Line
 - `java -version`

```
Select Command Prompt
C:\>java -version
java version "10.0.2" 2018-07-17
Java(TM) SE Runtime Environment 18.3 (build 10.0.2+13)
Java HotSpot(TM) 64-Bit Server VM 18.3 (build 10.0.2+13, mixed mode)
C:\>
```



```
Command Prompt
C:\>jave -version
'jave' is not recognized as an internal or external command,
operable program or batch file.
C:\>
```



Verify JDK is Present

- On Command Line
 - javac -version

```
Command Prompt
C:\>javac -version
javac 10.0.1
C:\>_
```



```
Command Prompt
C:\>javac -version
'javac' is not recognized as an internal or external command,
operable program or batch file.
C:\>_
```



Trouble with JDK?

- "I have installed JDK, but still I got this!"

```
Command Prompt
C:\>javac -version
'javac' is not recognized as an internal or external command,
operable program or batch file.
C:\>_
```



- You need to set up the search path for JDK's executables (such as, javac)

- System specific.

- See:

<https://docs.oracle.com/javase/10/install/overview-jdk-10-and-jre-10-installation.htm>

In-Class Exercise C01a-1

- Let's form group around students who have a laptop computer
- Complete the following tasks
 - Open a terminal
 - Show working directory
 - Display content in the working directory
 - Switch to a different directory
 - Create a directory
 - Delete the directory
 - Verify if JRE is present
 - Verify if JDK is present

Questions?

- If you don't have a computer today, have you taken any notes?
- Do you have any questions?
- Is there any tasks you wish to do, but not introduced in the class?